

REMARKS

The present invention is readily distinguishable over the cited primary reference, *Gitis*, for several reasons. First, Applicant's holder 17 is simply a free-standing object that is not driven or motorized in any manner. In contrast, *Gitis*' head 84 is driven by a motor with a transmission in two directions: (1) rotationally around the axis Y—Y, and (2) radially along arrow K. Col. 6, lines 55 – 64. Second, the bottom of Applicant's holder is unobstructed between the sensor 31 and the lapping plate 15. However, the bottom of *Gitis*' head 84 is completely covered with not one but two outer layers 82a, 82b (Figure 1). In addition, *Gitis*' AE sensors are "kept in contact with the backside of the wafer 82 during the processing" (col. 7, lines 15 – 16), so they are clearly obstructed.

Claim 1 was rewritten to include some of these requirements. For example, Claim 1 now requires the holder to be "undriven but free to rotate about the axial center of the holder relative to the lapping plate." Since *Gitis* is driven both rotationally and radially back and forth across its lapping plate, it cannot satisfy this requirement. In addition, Claim 1 also states that the holder is held "in a single radial and angular position with respect to the axial center of the lapping plate." This element further differentiates the rotational and radial movement of *Gitis*, thus, Claim 1 is now in condition for allowance.

Applicant notes that Claims 1 – 12 are not "apparatus" claims but "system" claims that describe and claim a complete system for predicting the lapping properties of lapping plates. Notwithstanding, dependent Claims 2 and 3 were rewritten to overcome the § 112, second paragraph rejections. The functional elements named in these claims are appropriate since they are directed to a system and not just an apparatus. Specifically, Claims 2 and 3 determine if the lapping plate is acceptable, and calculate the coefficient of friction and Preston coefficient of the lapping plate, respectively. In contrast, *Gitis* only controls and detects the end point of a polishing process and cannot satisfy the elements of these two claims.

Claim 4 now requires an "unobstructed sensor for measuring a physically unobstructed gap distance between the distance sensor and the lapping plate." Since *Gitis*' head is covered with two layers of wafers, it physically obstructs its sensors. Claim 6 further underscores the mobility requirement of Claim 1 by adding, "guide wheels that keep the holder in place when the lapping plate is rotating." Again, *Gitis* clearly teaches that its head 84 moves radially along arrow K. This also makes *Gitis* completely incompatible with prior art reference *Mitsuhashi*, which would appear to restrict such movement.

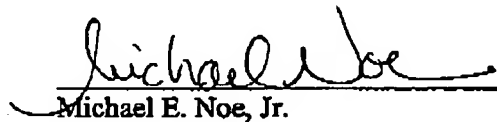
Claim 7 adds, "a plurality of specimens that are symmetrically spaced apart about the distance sensor." *Gitis* only has one specimen (a wafer having two layers) and it completely covers the head 84. This singular specimen and the very purpose of *Gitis* also makes it completely incompatible with the cited secondary reference, *Cote*. Moreover, one wafer cannot be symmetrically spaced apart from a sensor. Claim 10 includes, "a weight added to a top of the holder." Clearly, Figure 1 of *Gitis* shows a large shaft and motor assembly that would prevent such a requirement. Finally, Claims 11 and 12 state that the friction detection means is mounted to the arm, and that the friction detection means is a strain gage, respectively. In contrast, *Gitis* has no arm (its entire assembly is located above the head 84) nor does it specify a strain gage.

Independent Claim 13 was rewritten with many of the same distinguishing elements found in Claim 1. Claim 13 also now contains the language of some of its canceled dependent claims. For example, Claim 13 requires "a plurality of specimen mounted thereto and an axial center, the holder being adapted to be positioned on top of the lapping plate and the holder being undriven but free to rotate about the axial center of the holder relative to the lapping plate." In addition, the holder is maintained "in a single radial and angular position with respect to the axial center of the lapping plate, the guide feature comprising a set of guide wheels that keep the holder in place when the lapping plate is rotating." Furthermore, the friction detection means is mounted to the arm of the fixture, the distance sensor has a physically unobstructed vertical gap distance

between the distance sensor and the lapping plate, the specimen are symmetrically spaced apart from each other about the distance sensor, and a weight is added to a top of the holder. This unique set of elements is not found in any reference or combination of references.

It is respectfully submitted that the claims are in condition for allowance and favorable action is requested. No extension of time is believed to be required. However, in the event that an extension of time is required, please charge that extension fee and any other required fees to Hitachi Deposit Account Number 50-2587.

Respectfully submitted,



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